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Farm Mobilization **FACT SHEET**

Save Grain by Destroying Rats and Mice

There are some rats and mice on nearly all farms. Each year they destroy or contaminate many million bushels of grain and feed--grain and feed that is badly needed to help meet the Nation's increasing demand for meat, milk, and other livestock products. These pests are also the source of several diseases that are deadly to humans, pets, livestock and poultry. Rats and mice on your property means money out of your pocket.



Permanent control is a five-fold job:

ONE--DON'T GIVE THEM SHELTER

Rats and mice are difficult to get rid of if they have places to hide. Piles of rubbish, stacks of old lumber or other material, and wooden floors close to the ground are favorite hiding places. Many farms have several such "rodent hotels" near granaries or other food and feed supplies. All such shelters in or near buildings should be cleaned up or removed.

Lumber and other material should be piled on racks at least a foot above ground, and old wooden floors replaced with concrete. Foundations should be repaired and outside openings sealed off with concrete, sheet metal, or hardware cloth. Checking all doors and windows prevents rodent entry. If possible, floors of chicken coops, hog houses, and granaries should be raised 18 inches or more above ground.

TWO--DON'T FEED THEM

A hungry rodent is easily poisoned or trapped. Food and feeds should be stored properly, and scraps and garbage kept in rat-proof containers. Granaries, corn cribs, feed rooms, and storage cellars should also be rat-proof.

Full directions for rat-proofing buildings are given in U. S. Department of Interior Conservation Bulletin No. 19, "Rat-Proofing Buildings and Premises," obtainable from Superintendent of Documents, Washington 25, D.C. for 10 cents each.

THREE--KILL THEM

Rats and mice that are hungry and lack shelter are easily killed by:

1. Poisoning.
2. Fumigating
3. Trapping

All of the above methods may be employed individually or in combination on most rodent control jobs. Caution: poisons should be handled with great care. They should be kept away from children, livestock, and pets.

Poisons are only as effective as the baits with which they are mixed. Ingredients should be fresh and clean. Attractive foods for use with fast acting poisons, such as red squill or zinc phosphide, include: bread crumbs, rolled oats or yellow corn meal mixed with pork back fat, bacon grease, hamburger or ground fish. If rats don't eat the poisoned bait, other sources of food should be removed and several kinds of unpoisoned bait used for several nights before adding a poison. Slow-acting poisons like warfarin should only be mixed with non-perishable cereal-type foods, such as combinations of freshly ground yellow cornmeal and rolled oats. No prebaiting is necessary.

When quick kills are desired, red squill is the least hazardous and most economical poison for killing rats, but it is not effective against mice. Warfarin is quite comparable from the standpoint of safety. It is effective against both rats and mice, but requires a week or more exposure to get satisfactory control. Stronger chemicals, such as zinc phosphide, antu or arsenic, may be used, but can be dangerous to other animals. Highly toxic chemicals like thallium and Compound 1080 should be used only by qualified professional operators. The alternate use of several poisons is generally desirable, since rodents frequently develop a prejudice or tolerance to most poisons after repeated applications.

Warfarin is a new anticoagulant chemical which increases clotting time of the blood, causing death by internal bleeding. It must be consumed in small quantities over a period of several days. For this reason, ample amounts of bait should be available at all times. Permanent exposure of warfarin in protected feeding stations placed in barns, poultry houses, and granaries is a practical means to rid rodents from the structures and destroy new invaders, provided a supply of fresh acceptable bait is maintained at all times and the stations are strategically located. The poison concentration in baits is so low (0.025%) that there appears to be a minimum danger to domestic animals. Potential hazard is slight, since repeated feeding on baits must usually continue for several days to produce death. Adult poultry are very resistant to the chemical, but hogs appear to be quite susceptible. Warfarin is a good follow-up rodenticide to use after infestations have been quickly reduced by other control methods.

Many ready-mixed baits containing red squill or warfarin are on the market, but few of them are as attractive to rats as fresh bait.

Precautions should be taken to protect all types of poisoned baits from humans and domestic animals and to prevent contamination of foods. The best way to do this is to use covered feeding stations which permit entry by rats and mice but exclude larger animals. Simple stations may be constructed from empty boxes raised $2\frac{1}{2}$ to 3 inches above floor level or by means of boards nailed

to walls at a 45 degree angle as shown below. Care must be taken to securely fasten such stations in locations where the rodents are known to frequent.



Baits can be placed behind boards leaned against walls and fastened securely. Boards should be 1" x 8", preferably 4 to 6 feet long.

Fumigation with cyanide gas or gasoline exhaust fumes is effective for control of rats in outside burrows--but should not be used indoors. Since fumigants are highly poisonous to humans and livestock, they should be handled with great care. Calcium cyanide dust is usually applied with a special dusting pump.

Traps should be used where poisons or fumigation would be unsafe. For rats, the trigger surface of an ordinary snap trap can be enlarged with a 2" square of cardboard or hardware cloth. Several traps should be placed in runways where rats will cross the enlarged triggers. A properly placed rat trap needs no bait. Mice are easily trapped in ordinary snap traps baited with peanut butter and rolled oats.

FOUR--ORGANIZE COMMUNITY RAT-CONTROL PROJECTS

Community action is the most effective way to fight rats. Controlling rats on one farm in a community is usually only temporary. Even if a farmer rids his premises of rats, more may come in from surroundings where control is not practiced. Therefore, community campaigns should include not only farms, but dumps, feed mills, and other food sources in towns and villages.

FIVE--FOLLOW A YEAR-ROUND PROGRAM

Rats never take vacations. They may raise 4 or more litters a year averaging from 6 to 10 in a litter. The presence of one pair of rats on a premise in the spring can mean 50 rats by fall.

Rat control must be a continuous job. "Rat-Control Weeks" are entirely ineffective against the increase in rat numbers unless they are followed by a year-round program of rat destruction, sanitation, and rat-proofing. Once their numbers are reduced in a community they can be kept down at little cost by "maintenance control". Costs are decreased and losses of grain are kept at a minimum when each farmer, miller, and householder makes rat control a part of his regular chores.

LOCAL HELP IS AVAILABLE

District Agents of the Fish and Wildlife Service, U. S. Department of Interior, are listed below for those wishing to write them about organizing local cooperative rat-control projects:

Arizona:	E. M. Mercer, 135 N. 2nd Ave., Phoenix.
California:	Nelson Elliott, 277 Federal Bldg., P.O. Box 1317, Sacramento 7.
Central & Lake States:	G. C. Oderkirk, Experiment Station Annex, Purdue University, Lafayette, Ind.
Colorado:	Roy Fugate, 576 Custom House, Denver 2.
Dakotas-Neb.:	Noble E. Buell, 6 P. O. Bldg., P.O. Box 37, Mitchell, South Dakota.
Idaho:	Leo S. Twitchell, 1520 Vista Ave., P.O. Box 4008, Whitney Bench Station, Boise.
Montana:	Eugene F. Grand, 216 Federal Bldg., P.O. Box 1251, Billings.
Nevada:	Malcolm N. Allison, 312 P. O. Bldg., P.O. Box 1510, Reno.
New Mexico:	Louis H. Laney, 401 Federal Bldg., P.O. Box 1389, Albuquerque.
Northeastern States:	Howard A. Merrill, 1105 Blake Bldg., 59 Temple Place, Boston 11, Mass.
Okla.-Kansas:	A. E. Gray, 514 Okla. Natural Bldg., P.O. Box 1271, Oklahoma City 2.
Oregon:	G. H. Hansen, 110 Pioneer P. O. Bldg., 520 SW Morrison, Portland 4.
South Atlantic States:	L. C. Whitehead, Extension Service, P.O. Box 5577, State College Station, Raleigh, N. C.
Southern States:	R. B. Deen, P. O. Box 395, State College, Miss.
Texas:	C. R. Landon, 298 Federal Bldg., P.O. Box 1941, San Antonio 6.
Utah:	Owen W. Morris, 447 Federal Bldg., Salt Lake City 1.
Washington:	Milton C. Webster, 322 Federal Office Bldg., Seattle 4.
Wyoming:	Howard J. Martley, 226 City & County Bldg., P.O. Box 59, Casper.

